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Heteroglossic practices in a multilingual science classroom

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Abstract

This paper uses sociocultural theories of language learning to investigate how teachers and students navigate between monolingual institutional policies and the multilingual realities encountered in a rural Kenyan fourth-grade classroom. The paper addresses not only how learners' communicative repertoires are deployed to make meaning in a foreign language instruction context but also the sociocultural significance of these communicative practices. Results illustrate how the science teacher used heteroglossic practices to mediate students' access to literacy, hence, supporting the content learning and language development of students. Both the science teacher and the students preferred a more flexible use of language to make sense of their multilingual realities as opposed to monolingual view of literacy imposed on them by the language policy. I argue for the potential of heteroglossic practices in multilingual classrooms to ease the cognitive load of English language learners in the process of learning in an additional language. The findings highlight the need for legitimizing fluid language practices in multilingual classrooms in the process of acquiring an additional language and preparing teachers for a multilingual reality.

Keywords: Heteroglossia, communicative practices, monolingual, multilingual, repertoire, indexicality

Introduction

In several multilingual nations, teaching is often conducted in languages other than the students' home languages. As a matter of educational policy, governments designate the languages to be used in education of citizens. In general, pedagogical strategies in multilingual nations have adopted one of two ideological approaches: monolingualism or multilingualism. These approaches conceive languages as discrete and defined by specific forms. While monolingualism construes fluency in other languages as a threat to fluency in English, multilingualism tolerates linguistic diversity and accommodates a variety of languages (Horner, NeCamp, and Donahue 2011; Guerra 2016).

Recently, sociolinguists have argued that mobility rather than fixity characterizes late-modern societies, including language (Blackledge and Creese 2010; Horner, NeCamp, and Donahue 2011). Hence, we have the emergence of a third ideological model: translanguaging. This model focuses on mutual intelligibility rather than fluency in discrete languages and stresses heteroglossia (Bakhtin 1981; Bailey 2007) and/or translanguaging (García 2009; Blackledge and Creese 2010, 2014), that is, the flexible actions by which multilingual speakers draw on features in their linguistic repertoire to meet communicative needs (Velasco and García 2014). Translanguaging also specifically refers to the process by which bi-/multilingual individuals draw on their multiple linguistic repertoires for meaning making and to accomplish communication goals through a variety of literacy practices (García and Sylvan 2011). Language code-switching

(CS), translating, borrowing, and blending of languages is the norm, with a focus on the process or act of meaning-making.

This paper adopts Bakhtin's (1981) notion of heteroglossia in order to expand debates around trans-linguaging and to interrogate communicative practices among linguistically diverse learners in rural Kenyan classroom. Indexing the heterogeneity of signs and forms in meaning-making, heteroglossia has been used to illuminate the diversity of linguistic practices evident in the late-modern societies (Blackledge and Creese 2010). Busch (2014) in particular noted how heteroglossia takes account of the existence of several languages and codes as resources for multivoicedness.

Heteroglossia in multilingual classrooms

Often in linguistically diverse settings, languages are kept separate in learning. Education stakeholders emphasize language purism and a strict separation of languages at school.¹ While such monolingual orientations have shaped language policies and practices in schools, multilingual realities in classrooms are frequently not recognized as pedagogic resources for harmoniously transitioning students from home languages and knowledges to school languages (García 2009). A growing body of research, however, demonstrates that heteroglossic practices can recognize and leverage the meaning-making resources of multilingualism for linguistically diverse learners (cf. Merritt et al. 1992; Setati et al. 2002; García 2009; Banda 2010; Blackledge and Creese 2010). For example, Banda (2010) showed how learners and teachers in South Africa achieved voice and agency by challenging discourses otherwise framed in monolingual perspectives. Using English and Afrikaans in flexible ways and drawing on both languages as linguistic resources to gain access to knowledge, learners both negotiated and generated alternative discourses to the monolingual ones. As such, learning was achieved outside of the prescribed official models and languages of education (Banda 2010), and these alternative discourses capitalized on a fluidity of language use among multilingual students.

Flexible language use in science and mathematics classrooms aids students' participation, enhances the understanding of subject-area concepts, and connects content problems with student experiences outside the school. Kiramba (2016b), for instance, noted increased participation of students in a multilingual classroom when the teacher used home languages, as opposed to silence when English-only was used. Rollnick and Rutherford (1996) found that use of student home languages was a great way for learners to explore their ideas. Both studies indicate that a use of L1 in teaching and learning provides support to students while developing their proficiency in a language of instruction (LOI).

An increasing body of research suggests that heteroglossic practices in education facilitate the connection of student home languages and literacy practices with school literacy practices in ways that are relevant to their lives (De La Piedra 2009; Gonzalez and Iliana 2012; Kiramba 2016a). Heteroglossic strategies have also been used for curriculum access (Merritt et al. 1992), as well as classroom management and interpersonal relations (Ferguson 2003), serving to enhance rather than inhibit children's English literacy learning. Blackledge and Creese (2010) have similarly underscored the benefits of drawing from multiple linguistic repertoires, framing student and teacher language practices alike as identity performances. Canagarajah (2011) similarly points to the deep connection between text and identity.

While heteroglossic communicative practices comprise the norm in bi-/multilingual classroom settings, both learners and teachers report discomfort with the situation (McGlynn and Martin 2009). Teachers have expressed anxiety around deploying languages flexibly in the classroom (Alidou and Birgit 2006), whether from personal beliefs about monolingualism or from institutional commands for English-only pedagogy (Cleghorn 2005). Studying teacher beliefs and practices around CS in L1 and L2 classroom contexts, Chimbutane (2013) found that teachers inclined to avoid CS. While some were flexible about language separation, others were reluctant to use or to allow pupils to use home languages in Portuguese-only contexts.

Teachers construed the correct way to deal with their multilingual situation as avoiding the use of the pupils' L1, while at the same time maximizing the use of the target language.

Because empirical studies have yet to completely outline the limit, reach, and value of flexible language use in multilingual classrooms, conflicting views about heteroglossic practices, as well as negative attitudes to CS prevail (Ferguson 2003; Martin 2005). A mixing of languages in classrooms can be off-handedly banned simply as inappropriate. Setati et al. (2002), for instance, report that rural primary school teachers in South Africa observed that CS should be shunned, since the classroom offered students their only exposure to English. While Blackledge and Creese (2010) argue for acknowledging and emphasizing the multiple competencies of the multilingual learners, they nonetheless advocate a balance between heteroglossia and monolingualism, while Canagarajah (2013) outright cautions educators about academic impacts heteroglossic practices might have on students.

In multilingual classroom settings, then, we see that tensions between monolingual, multilingual, and translanguaging ideologies are live. Many of these tensions involve mandates to adhere to school LOI policies while facing the linguistic needs of multilingual students, but they also include questions around formal versus informal language use and the language of academe compared to real life. In this paper, I signify *heteroglossic practice* – that is, a flexible language use in the classroom that draws on the heterogeneity of signs and stratified diversity of language always already present in the different languages and multi-voicedness of multilingual learners (Busch 2014) – as a way to see the communicative practices in a multilingual classroom context in Kenya.

Theoretical framework

Bakhtin's work on heteroglossia is important for this study for how it focuses on the situatedness of language, in its concretely historic and economic forms of use rather than as a universalized abstraction (Wertsch 1991). This links language use by individuals to cultural, historical, and institutional constraints and influences. Madsen (2014), for instance, notes how heteroglossia identifies diversity in speechness, languageness, and voicedness and supplies an umbrella term to forefront the socio-ideological aspect of languages, codes, and voices (Madsen 2011). Most simply, this means that language is a public holding and that individual use is never solely idiosyncratic or free of social influences.

For Bakhtin, heteroglossia is particularly marked by *tension*, *indexicality*, and *multivoicedness*. This tension appears most in the centralizing and 'centripetal' pull of power to reduce all utterances to only one single meaning and the de-centralizing, 'centrifugal' push of each utterance to insist on its own uniquely distinct voice. Duranti (1998) summarizes this:

The centripetal forces include the political and institutional forces that try to impose one variety of code over others ... these are centripetal because they try to force speakers toward adopting a unified linguistic identity. The centrifugal forces instead push speakers away from a common center and toward differentiation. These are the forces that tend to be represented by the people (geographically, numerically, economically, and metaphorically) at the periphery of the social system. (76)

The centrifugal and centripetal mutually and necessarily constitute one another. Opposed to unitary language and pushing for diversity, heteroglossia finds itself equally constantly opposed by the pull of unitary language, that 'makes its real presence felt as a force overcoming this heteroglossia, imposing specific limits to it' (Bakhtin 1981, 270). In this study, we see this tension at one level in the interplay between LOI policy (unitary language) and actual practice (heteroglossia) in the multilingual science classroom.

Indexicality emphasizes and identifies classes of points of view, ideologies, social classes, professions, or other social positions (Blackledge, Angela, and Takhi 2014). Bakhtin's notion of heteroglossia specifically includes this identification of classes of linguistic phenomena in their entire concrete, historical embodiment. Language stratification, for instance, derives not only from its historical association within

languages but also its present associations within language use, along with how those language forms are valued or devalued by culture. In this way, different language forms associate with various ideological positions, and these positions are stratified into dialects, proper speech, slang, creole, pidgin, and so on; each valued or devalued accordingly. The indexicality of heteroglossia, in essence, identifies and analogizes with the class-structure of society at large.

This also includes *ideological becoming*, that is, the way we develop our way of viewing the world, our system of ideas. As a process of engagement by which an ideological stance, or worldview, develops, it represents a process of “selectively assimilating the words of others” (Bakhtin 1981, 341). Here, a distinction between *authoritative* and *internally persuasive* discourses hinges on the degree of ownership:

The authoritative word demands that we acknowledge it, that we make it our own; it binds us, quite independent of any power it might have to persuade us internally, we encounter it. The authoritative word is located in a distanced zone, organically connected with a past that is felt to be hierarchically higher. It is so to speak the word of the fathers. Its authority was already acknowledged in the past. It is a prior discourse. It is therefore not a question of choosing it from among other possible discourses that are its equal. (342)

... the internally persuasive word is half-ours and half-someone else's. Its creativity and productiveness consist precisely in the fact that such a word awakens new and independent words that it organizes masses of our words from within, and does not remain in an isolated and static condition....It enters into an intense interaction, a struggle with other internally persuasive discourses. Our ideological development is just such an intense struggle within us for hegemony among various available verbal and ideological points of view, approaches, directions and values. (345–346)

Bakhtin noted that the internally persuasive word lacks all privilege, is not backed up by any authority at all, and is frequently not even acknowledged in the society.

For Bakhtin (1981) “all utterances are inherently dialogic. They have, at the same time, a history and a present which exist in a continually negotiated state of intense and essential axiological interaction” (279). As such, we do not simply speak but envoice (Bakhtin 1986); we do not simply accentuate or populate language resources with our own intents and histories, but add to pre-existing ones – not only in all of the words ever said or being said, but even in anticipation of what might be said in the future. In this way, every utterance is multivoiced: reflecting not only ours (and our intentions and histories), but also an implicit dialogue with the voices, intentions, and histories of the past, present, and future. But even though all utterances are multivoiced, a speaker may take a unitary or heteroglossic attitude towards that multivoicedness. A speaker can attempt to deny and silence the multiplicity in a unitary way or can foster and highlight that multiplicity dialogically.

In this article, I highlight heteroglossia's tension, indexicality, and multivoicedness as an analytical lens for linking linguistic utterances in the present with the sociohistorical relationships that not only give meaning to those utterances (Wertsch 1991) but also illuminate multilingual classroom communicative practices and their significance. In particular, this heteroglossic lens permits interrogating the signs used during such communicative practices along with what these signs index.

Methodology

This article is drawn from a larger, six-month ethnographic case study of communicative practices in a multilingual, rural, fourth-grade classroom in Kenya, specifically in language arts, science, and math. Qualitative case study methods were suitable for this study because I had no control over the behavior of participants (Stake 1995). Research questions guiding the study were: (a) How are children's communicative repertoires deployed during science lessons to make meaning in a foreign-language instruction? and (b) What are the social cultural significances of these practices?

Context of the study

Kenya is a multilingual East African country that attained independence from British colonialism in 1963. There are approximately 67 live languages (Lewis, Simons, and Fennig 2016), with English and Kiswahili as the official languages. Kiswahili is the national language and the lingua franca, while English has been the LOI from fourth grade onwards post-independence. Consequently, teachers and other educated members of the society have varying proficiencies in English and Kiswahili, as well as other home languages.

This study took place at Tumaini public primary school, a rural school in the Eastern-province Umoja region. Selected for its rural location and adherence to the nationally prescribed transitional bilingual education, early-exit program, both teachers and students possessed proficiency in one or more local languages. While students learned Kiswahili and English at school, all in fourth-grade classroom were English learners with low proficiencies in both written and spoken English. The children reflect multilingual (speaking two to three languages) or emerging multilingual (speaking at least two languages and acquiring one or more additional languages) backgrounds arising either from parental intermarrying or speaking different but mutually intelligible dialects. The majority of the people in the community speak Kimeru; a good majority speaks the national language, Kiswahili. All of the students came from low-income homes and did not have access to English outside school.

Participants

The participants for this study were the science teacher and fourth-grade students.

The science teacher

The fourth-grade class and science teacher, Mrs. Tabasamu, was 43 years old, and had a university degree in education along with 16 years of teaching experience in primary schools. She had taught at Tumaini for eight years at the time of this research. She spoke four of the five languages represented in her classroom; Kimeru, Kikuyu, Kiswahili and English.

Fourth-grade students

The 16 boys and 12 girls aged between 9 and 12 years all were English language learners who spoke Kimeru and Kiswahili; a few also spoke Kikuyu and Kiluhya at home. All agreed to participate in this study. Fourth grade was suitable for this study because it marks the transitioning year from mother-tongue instruction to English-only instruction in Kenyan schools.

Data collection

When the teacher interacted with the class as a whole, I had no control on who responded. Any whole class-recorded lesson, therefore, included a range of children.

I collected data from this fourth-grade classroom for six months, observing the class five days per week, seven hours per day. The communicative practices during science lessons were both observed and audio recorded. In all, I observed, recorded, and transcribed 47 science lessons of approximately 30–35 minutes each. The data discussed in this article are drawn from three specific lessons on two thematic units: sinking and floating, and body care.

Data analysis

Using thematic analysis, which “involves discovering, interpreting and reporting patterns and clusters of meaning within the data” (Spencer et al. 2014, 271), I systematically identified and progressively integrated topics into higher order key themes, guided by the overall research question (Braun and Clarke 2006) and deploying the five stages recommended for data management during thematic analysis (Miles, Huberman,

and Saldaña 2014; Spencer et al. 2014). These five stages include: familiarization, initial thematic framework, indexing and sorting, reviewing data extracts for coherence, and data summary and display.

At the initial stage of data analysis, I immersed myself in the data and familiarized myself with all of the transcribed science lessons, verbatim transcripts, observational notes, and written documents, gaining an overview of the substantive content and identifying language-use patterns, to ensure that categories developed were grounded in and supported by the data. My goal was to identify the deployment of linguistic repertoires recurrent across the datasets relevant to my research questions. I coded for behaviors, events, activities, strategies, meaning-values, norms, participation, relationships and interaction, and conditions and constraints. Key questions guiding the coding included: What is going on? What are students and the teacher doing? What is the context and structure of their saying?

My focus was to move from descriptive to analytical codes. Emergent ones included: reasons for translanguageing, why and when translanguageing occurred, and students' reactions to it. From this process, themes/concepts emerged for labeling, sorting, and comparing the data as well as checking this inventory against my research questions for relevance. Given that an overall aim of the study was to identify not only the linguistic repertoires in use, but also what these repertoires signified, heteroglossia emerged as a key concept for exploring a more detailed analysis of the data, categories, and themes. The heteroglossic practices discussed in this article were selected as representative of the regular learning activities typically observed and emergent in the initial, more holistic analysis.

Findings

Findings are organized in terms of the communicative practices during science lessons and the attributed significance of each discourse. The findings show how the science teacher negotiated institutional monolingual policies and multilingual realities to construct meaning during science lessons. The key for the transcription of the verbatim comments includes:

| | |
|-------|--|
| T | teacher |
| S | Student |
| S1 | student one |
| S2 | student two |
| SS | students |
| S-all | all students |
| S-few | a few students |
| [] | researcher's observations and descriptions |
| () | translations |

Italics words, phrases or sentences indicate languages other than English

Heteroglossia and agency for meaning-making

Mrs. Tabasamu used heteroglossic practices in her instruction, from the introduction to the end. While following the mandate of English LOI, she would then rephrase or translate the same content into students' languages, either Kimeru or Kiswahili. This message abundance enabled agency for meaning-making in the classroom. Excerpt 1 (below) comes from a curricular item on sinking and floating.

Excerpt 1: Factors affecting floating and sinking

1. T: Factors affecting floating and sinking. These are material, shape, and size [writing on the board]. Shape, *fafanua kidogo* [Kiswahili] (explain a bit) shape, shape *ni* (is)?
2. S: Silence (students write silently the topic for the day and the three factors that are on the chalkboard)

3. T: Eeeh! [Explaining in Kiswahili] *Ni vile kitu kimeundwa. Unawezakuta vingine vina* (It is the way things are made. You will find some have) corner, *vingine viko* (others are) straight, *vingine* (others)? [Probing students to contribute]
4. S1: Triangle
5. T: *Vingine* (others)?
6. S2: Square
7. S3: Rectangle
8. T: Rectangular, Eeeh, someone else, any other shape that you know? So you are telling me all the shapes that you know [another student raises hand and teacher acknowledges] Yes, Adila!
9. Adila: *Mche* (prism)
10. T: Now when we talk of a shape, that what we are talking about. [Explaining in Kiswahili] *Muundo wa kile kitu* (shape of that object). How that object looks like. That is the shape. The other factor is size. Size, *nani hajui* (who doesn't know) size? *Kuna mtu hajui tunazungumzia nini* (is there anybody who doesn't know what we mean) when we talk of size?
11. S-all: *Hapana* (No)!
12. T: Let's take a stick [repeats]. A piece of stick [translating into Kiswahili] *Kijiti ambacho kimekauka, kimoja kiwe kirefu hivi, kengine kawe kafupi; vyote ni vijiti vimekauka* (a wooden stick that is dry, one long like this, and another one short; both are dry sticks). Am talking of *gakoomu* (a Kimeru word for dry). When you put all these sticks in water. The short stick and long stick, remember we said that sticks float. If we put them in water, will the longer one sink and the other one float?
13. S-all: No!
14. T: [Teacher continues codemixing English and Kiswahili] Even if it's small or big, if the material is a sinker, it will sink. What matters, one, *itadepend na kile kitu kimeunda* (it will depend with what it's made of). The material matters a lot. *Tumeelewanwa hapo* (have we understood each other there)?
15. S: *Ndio* (yes).
- ****
16. T: [explaining in Kimeru] *Kethira gintu ni kia gusink, kinya kiethirwa kiregi, kana gikuigi gikagita atia?* (If some is a sinker, even if it's long or short, it will?)
17. S-all: *Kigasink* (it will sink).
18. *Na kiethirwa ni gia gufloat, kinya kethirwa kanyigi, kana karegi, gakagita atia?* (And if it is a floater, even if it's small or tall, it will?)
19. S-few: *Gikafloat*. (It will float.)

Introducing the lesson in English, Mrs. Tabasamu taught factors affecting floating and sinking, then probed student understanding of shape in Kiswahili in turn 1, that is, (Shape, *fananua kidogo*). She explained the meaning of shape in Kiswahili in turn 3 and probed the students to give examples of shapes they knew of. Before translation, the students remained silent, but after shape is explained in Kiswahili, the students began to respond with different types of shapes, as observed from turns 4–9; many more students had raised their hands to provide an example of a shape. In turn 10, Mrs. Tabasamu repeats the definition of shape in Kiswahili and English, before she introduces the next factor, size. She mixes English and Kiswahili back and forth to check student knowledge of size. In turn 12, she explains size and provides an example in English, then describes the example further in Kiswahili, clarifies further in Kimeru, that is, (I am talking of *gakoomu*), and then, turn 14, utilizes codemixing within phrases, such as *itadepend* (Swahili/English; it will depend). In turn 16 and 18, she summarizes size and material in Kimeru, with the students responding in codemixed phrases in turns 17 and 19.

While using English as required by policy, Mrs. Tabasamu repeated the same information in three different languages. Student silence cued a misunderstanding or that students were not following, which triggered the teacher's direct translation of some words and/or explanations in Kiswahili or Kimeru. This flexible language use served to clarify the lesson content and move the lesson forward.

Heteroglossia and disruption of initiation response feedback (IRF) discourse pattern

Typically, the discourse patterns in English-only lessons were dominated by IRF discourse patterns, that is, where the teacher would initiate a question, students would respond, and the teacher would then evaluate the response. In this teacher–student interaction, student responses would be one-word or yes/no responses. In excerpt 2 (below), which occurred as the science teacher was reviewing a thematic lesson on body care, heteroglossic practices demonstrate their potential for disrupting the IRF discourse pattern.

Excerpt 2: Problems related to teeth.

- 20. T: Another problem is tooth cavity. What do we mean by tooth cavity?
- 21. S-all: (All students remain silent)
- 22. T: [*translating*] Tooth cavity *ni nini*? (What is tooth cavity?) Yes?
- 23. S1: *Jino likiwa limeoza* (a tooth that has rotten). [Another student raises hand and tries to answer]
- 24. S2: *Jino likiwa limeoza na likiwa na shimo ndani* (a tooth that has rotten and has a hole) [The answer is correct in Kiswahili.]
- 25. T: *Yaani jino likiwa limetoboka* (that is a tooth that has a hole) [the teacher is showing a picture on the board; using students' words.] This one is a hole [showing on board].

In excerpt 2, Mrs. Tabasamu asked a question in English in turn 20 and repeated it in Kiswahili in turn 22. A student suggested an answer in Kiswahili, turn 23 and a second student added on that, turn 24. Mrs. Tabasamu repeated the students' responses in Kiswahili, turn 25, and continued to present this information in English and Kiswahili. By Mrs. Tabasamu encouraging participation in any language, students participated more. Turns 23 and 24 show students building on each other's responses and thus disrupting the conventional IRF classroom pattern – a very rare occurrence during English-only lessons in this classroom.

This flexible language use, then, provides access to knowledge production, enabling students to respond in Kiswahili who might otherwise remain silent. Heteroglossic practice in this form, however, does not seem to hand over rights to students to engage with the content among themselves; it remains still quite controlled, with students positioned as recipients of the teacher-mediated knowledge. Notable is the fact, however, that while there are no major student–student discussions, students nonetheless discussed their knowledge of the concept and built on each other's knowledge.

Heteroglossia and voice

Heteroglossic practices during science lessons illustrate how use of students' home language could *envoice* student experiences and knowledge. Envoicing involves embodying an individual's identity and locality in a text or talk, through inclusion of their social or cultural particularities (Canagarajah 2013). Through use of flexible language practices, students' experiences were envoiced by validating not only the students' experiences but also their languages. Excerpt 3 illustrates further consequences of this:

Excerpt 3: Care of teeth: Brushing.

- 26. T: What do we use to clean our teeth?
- 27. Ss: (*Students respond, one after another*) tooth brush, tooth paste, a piece of wood, chewing stick and salt, charcoal
- 28. T: Now, if we do not have a toothbrush and toothpaste, are you going to leave your teeth dirty? What can you use?
- 29. S1: *Chumvi* (salt)
- 30. S2: Salt and chewing stick.
- 31. T: Even if you don't have toothbrush and tooth paste, you can use a *homemade brushing twig*... One can use homemade brushing twig to clean between the teeth. [The teacher shows the student the homemade brushing

- twig. Students sitting next to me discuss about the different types of trees that they use for cleaning their teeth; Fumo says he uses bamboo stick to clean his teeth after each meal.]
32. T: How can you make or prepare a homemade toothbrush?
33. S1: Chewing stick
34. T: I have said we don't call that chewing stick. It is a homemade brushing twig. How can you prepare a homemade toothbrush? How? How can you make a homemade brushing twig? Issa [calling on a student], you made one. How did you make this one? [showing students] *Sasa hii ndio tunaita* (now this is what we call) homemade brushing twig. *Hii inatengenezwaje?* (How is this made?) [teacher asks questions in Kiswahili]
35. S1: *Unavunja, unatafuna, unaanzia...*[Kiswahili] (You break, you chew, you begin...)
36. S2: *Unavunja, unatafuna, mpaka inakuwa soft, nyororo kabisa. Si ndiyo?* [Kiswahili] (You break; you chew, until it is completely soft. Isn't it?)
37. T: You take a piece of stick from a tree, you chew that one until it is soft, and from there you can use it to clean your teeth.

Here, we see the teacher linking daily experiences and school scientific knowledge (homemade brushing twig), moving between home languages and school language. The students use daily language in English (chewing stick) in turn 33, and the teacher reminds them it is called a homemade brushing twig in turn 34. Mrs. Tabasamu then asks how it is made. There is silence as the students cannot respond in English, so the teacher calls on a student, Issa, who remains silent. After repeating the question about four times as seen in turn 34, Mrs. Tabasamu asks the same question in Kiswahili, *hii inatengenezwaje?* Immediately, S1 describes how homemade brushing twig is made, and S2 adds on the processes and even prompts for agreement or disagreement from peers, turn 36, to create a conversation on how it is made.

In this lesson, the learners feel a freedom to access the local knowledge, expertise, values, and language of their community. Although students had this knowledge, they could not respond in full sentences in English. While the teacher translated the students' knowledge into English, the classroom language, the outcome of this flexible language use was a lively discussion where students felt that their daily knowledge and values were useful at school. By doing this, students found their voice in sharing their experiences and social and cultural particularities.

Discussion

The data show that teacher and students deployed multiple communicative repertoires to make meaning during science lessons in a foreign-language instruction. This deployment negotiated and contested a monolingual ideology, while heteroglossic practices indexed agency, disruption of language hierarchies, and the envoicing in the classroom of student localities and experiences.

Tensions and agency

Multiple tensions informed language use in Mrs. Tabasamu's class, particularly between the mandated LOI policy while meeting students' multilingual needs. Balancing the use of the authoritative and internally persuasive word (Bakhtin 1981), Mrs. Tabasamu enacted agency for the students, negotiating the prevailing language policy and multilingual reality as well as the varying language proficiencies represented in the classroom. Through repetition of ideas, translation, CS, and allowing students to translanguaging, she deployed the lingua franca and home languages alike to scaffold an English understanding of the lesson content among the students. She recognized the importance of allowing students to use their home languages to help them benefit from the importance of speech in their thinking processes. As Vygotsky puts it, 'experience teaches us that thought does not express itself in words but rather realizes

itself in them' (Vygotsky 2012, 266). The use of home languages afforded all students an opportunity to realize their thoughts in this sense.

Learners found their pre-existing knowledge validated at school during science lessons, a precondition for ensuring meaningful and successful learning. Flexible language use offered the possibility for a coherent interface between home and school knowledge and helped the students to comprehend the science knowledge by mediating between common sense, an experiential understanding of the world, and scientific understanding. Related findings have been reported in other studies conducted in multilingual Kenyan classrooms (Merritt et al. 1992; Kiramba 2016b). These practices demonstrate the possibility of teacher-constructed, flexible multilingual strategies that can address the linguistically structured inequalities affecting Kenya; a possibility echoed in multilingual South Africa (Makalela 2015) and elsewhere in the world (García 2009; Blackledge and Creese 2010).

Heteroglossic practices also increased participation. According to Mrs. Tabasamu, while less than half of the students understood basic instructions in English, student languages mediated learning processes and increased the willingness to participate. Vygotsky (2012) notes how native language plays a mediative role, observing how a foreign word is related to its object through meanings already established in individual's home language. Halliday (1973) argued that educational failure is a function of language failure. A student who fails in the school system is often the one who does not use prescribed school languages appropriately.

Within the broader monolingual perspective of literacy, a child who has accessed knowledge through translanguaging may not use the same mode to respond to questions in an assessment. While flexible language use during science lessons took account of the child's own linguistic experiences, tensions remain around the acceptability of these strategies in a multilingual African classrooms (Alidou and Birgit 2006; Chimbutane 2013; Kiramba 2016b). Thus, the language situation in Mrs. Tabasamu's class constituted a battlefield of ideologies where policies and realities, power structures and resistance, contested.

IRF and indexicality

In light of the students' silence when asked questions in English, we could say Mrs. Tabasamu's use of the authoritative word was hierarchically higher and distanced from students (Bakhtin 1981). Her English use indexes power and an authority in the classroom that students cannot access. Recognizing this language barrier, Mrs. Tabasamu felt compelled by the school's powerful institutional and political forces to continue with English, albeit translated to make the lesson meaningful to students.

Again, apart from short instances during the lesson as seen in excerpt 2, which showed a potential to disrupt IRF, she did not hand over to students the right to dialogue in their home languages. This constrained dialogue between students. According to Bakhtin (1981), when dialogue is not an enduring, interactive process of constructing meaning between people, it becomes a monologue wherein communication is merely a transfer of message from sender/speaker to recipient/listener – a coded message with static signs and fixed meanings that precludes dialogue. Bakhtin and Vygotsky alike insisted that education should not be seen as a transmission of knowledge, retention, recall, and transfer, but occurred through a co-construction of knowledge and classroom participation. Scholars of language issues in multilingual developing nations, such as Benson and Kosonen (2013), argue for acknowledgement of linguistic and cultural resources that learners bring to the learning process as a liberatory practice to promote both linguistic competence and cognitive development. Monologism ignores other voices and those voices' wanting to transmit *their* understanding and knowledge.

Given the students' inadequate mastery of the LOI, Mrs. Tabasamu's use of heteroglossic practices also index a challenge to those structures of power that prevent full participation by rural students. Flexible language use led to inclusion of students who would otherwise remain silent.

Voice

Literacy teaching in school can either affirm or devalue cultural identity (Blackledge and Creese 2010). In the science class, heteroglossic practices acknowledged the cultural identities of students and encouraged them to develop their self-image and to affirm those cultural identities. Through the use of home languages, students brought their lived worlds into being in the classroom (Hall, Vitanova, and Marchenkova 2005; Kiramba 2016a). Although Mrs. Tabasamu's major goal was to provide knowledge access to students and to encourage engagement in science discourse, the use of multiple communicative repertoires also constitutes a performance of multiple voices (Smitherman 1972). Smitherman points out that code-mixing and CS enable speakers to negotiate their own identities and display creativity where other voices are purposively integrated in performance.

By providing students an opportunity to respond in their home repertoires, Mrs. Tabasamu's use of internally persuasive language elicited the experiences, knowledge, and localities of her students. She used three languages to enhance comprehension and to enable identity performance via the linguistic signs at her disposal. Voice, in this analysis then, addresses issues of equity and access as they relate to social contexts where students are learning. While some voices may be silenced by adherence to policy, others become privileged. As Sperling and Appleman (2011) noted, 'voice can be given or taken away by teachers or others in students lives, students can lose or find their voices' (71). Authoring their daily experiences and using home languages in this science class enabled students to find their voices.

Conclusions

This article analyses communicative practices in a multilingual classroom. In general, the tensions between unitary language and heteroglossic practices, and the way the science teacher and the students negotiated and/or resisted the monolingual view of literacy imposed by the national language policy, constitute the multiple communicative repertoires used for meaning-making. While sociopolitical forces push Mrs. Tabasamu towards authoritative discourses, the multilingual reality of the classroom pushes for heteroglossia. While playing an agentive role in negotiating the imposed monolingual policies, the resultant struggle of voices and identities by the participants constitutes the learning environment. The use of multiple linguistic repertoires signifies at the macro level not only agency and disruption of linguistic hierarchies, but also envoicing of the learners' localities.

The data suggest that the use of heteroglossic strategies disorganizes the hegemony of monolingualism for multilingual learners. It creates a space for pedagogy of integration and dialogue, which liberates historically omitted languages and asserts the fluid linguistic identities of multilingual learners. As such, it has a potential for development into a pedagogical approach that is linguistically and culturally transformative (Velasco and García 2014; Makalela 2015; Kiramba 2016a). Heteroglossic practices hold promise as a means for mitigating the current challenges of foreign-language teaching in Kenya's multilingual schools and suggest the need for a heteroglossic multilingual education built on home linguistic repertoires, including dialects and urban vernaculars that students bring to school. It rationalizes providing children with access to both indigenous and global languages in order to provide high-quality educational opportunities. Similar views are held by Benson (2013), who critiqued practices, which are undergirded by monolingual ideologies that present a mismatch between languages spoken by people and languages that are privileged at school.

This study suggests a need for teachers of multilingual learners to identify student's languages and develop translanguaging strategies to support content learning and acquisition of English. Multilingual students need to be well grounded in both content and language learning to avoid delay in their academic development. Use of home languages is important to continue developing students' voice through

use of available resources they already have in the process of acquiring English, and, to develop a deeper meaning in content learning, as they use language (s) as a tool for thinking and realizing their thoughts (Vygotsky 2012). There needs not be a wait time to acquire English in order to learn content.

In instances where the teacher does not speak students' home languages, the nation's lingua francae might be more accessible to majority of students, as the Kenyan case has shown. Additionally, to navigate the unitary language versus heteroglossic realities in the classroom, teachers may engage in action research using data collected from multilingual classrooms to showcase the pedagogical advantages of incorporating home languages in instruction.

This study does not downplay the importance of access to English, which remains the global language for most students, but argues for a heteroglossic multilingual pedagogy appreciative of home languages, in order to empower, envoice, and affirm students' identity as well as enhancing English language acquisition. Building on learners' home linguistic repertoires nurtures the acquisition of school language by linking school language content with the lived experiences of learners. In addition, heteroglossic practices potentially provide agency to students, disrupt language hierarchies and the authority relations based on unfamiliar languages, and give student a voice not only by enabling their knowledge in the classroom but also in authorship of their experiences and the opening up spaces for dialogue.

Note

1. Although heteroglossic practices and code-switching are not interchangeable, earlier research used these terms, which build the case for understanding heteroglossia today.

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